



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/053,378	03/22/2011	Peter Joel Meschter	246989	8137

6147 7590 02/02/2017
GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
ONE RESEARCH CIRCLE
BLDG. K1-3A59
NISKAYUNA, NY 12309

EXAMINER

LA VILLA, MICHAEL EUGENE

ART UNIT	PAPER NUMBER
----------	--------------

1784

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

02/02/2017

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

haeckl@ge.com
gpo.mail@ge.com
Lori.e.rooney@ge.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER JOEL MESCHTER
and RAYMOND GRANT ROWE

Appeal 2016-000952
Application 13/053,378
Technology Center 1700

Before KAREN M. HASTINGS, GEORGE C. BEST, and
N. WHITNEY WILSON, *Administrative Patent Judges*.

BEST, *Administrative Patent Judge*.

DECISION ON APPEAL

The Examiner finally rejected claims 1–9 and 11–23 of Application 13/053,378 under 35 U.S.C. § 103(a) as obvious. Final Act. 4–9 (November 5, 2014). Appellants¹ seek reversal of these rejections pursuant to 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

For the reasons set forth below, we AFFIRM-IN-PART.

¹ General Electric Company is identified as the real party in interest. Appeal Br. 2.

BACKGROUND

The '378 Application describes coating systems for protecting components exposed to a high-temperature environment, such as the hot gas flow path in a gas turbine engine. Spec. ¶ 1. The Specification describes the coatings as capable of protecting an underlying coating or substrate from hot corrosion initiated by molten salts. *Id.*

Claim 1 is representative of the '378 Application's claims and is reproduced below from the Claims Appendix to the Appeal Brief:

1. A coating system on a substrate of an article, the coating system comprising:

at least one coating layer overlying the substrate, the coating layer having a composition that is susceptible to hot corrosion promoted by molten salt impurities; and

a corrosion barrier coating overlying the coating layer and wherein the corrosion barrier coating contains at least one rare-earth oxide-containing compound that reacts with the molten salt impurities to form a dense, protective byproduct barrier layer on the surface of the corrosion barrier coating, the at least one rare-earth oxide-containing compound being present in the corrosion barrier coating in an amount of at least 15 weight percent of the corrosion barrier coating

wherein the rare-earth oxide-containing compound is comprised of a rare earth zirconate ($\text{RE}_2\text{Zr}_2\text{O}_7$), a rare earth hafnate ($\text{RE}_2\text{Hf}_2\text{O}_7$) or a mixture thereof

wherein RE in the $\text{RE}_2\text{Zr}_2\text{O}_7$ is selected from the group consisting of Sc, Ce, Pr, Pm, Sm, Eu, Tb, Ho, Er, Tm, Yb, Lu and combinations thereof and

wherein RE in the $\text{RE}_2\text{Hf}_2\text{O}_7$ is selected from the group consisting of Sc, Ce, Nd, Pm, Sm, Eu, Tb, Dy, Ho, Er, Tm, Yb, Lu and combinations thereof.

Appeal Br. 34 (Claims App.).

REJECTIONS

On appeal, the Examiner maintains² the following rejections:

1. Claims 1, 6, 7, 9, 12, 13, 16, 22, and 23 are rejected under 35 U.S.C. § 103(a) as unpatentable over Maloney,³ as evidenced by Kozak.⁴ Final Act. 4; Ans. 2.
2. Claims 5 and 8 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Maloney, as evidenced by Kozak, and Subramanian.⁵ Final Act. 5; Ans. 4.
3. Claims 14, 17, 18, 20, and 21 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Maloney, as evidenced by Kozak, and Appellants' Admissions.⁶ Final Act. 6; Ans. 5.
4. Claims 1–5, 9, 11–13, 16, 22, and 23 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of

² The Examiner has withdrawn the rejections of: (i) claim 7 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement; (ii) claims 15 and 19 under 35 U.S.C. § 103(a) as unpatentable over the combination of Maloney, as evidenced by Kozak, and Appellants' Admissions (*see* n.3,4,6, *infra*); and (iii) claims 15 and 19 under 35 U.S.C. § 103(a) as unpatentable over the combination of Spitsberg (*see* n.7, *infra*), Maloney (as evidenced by Kozak), and Appellants' Admissions. Ans. 9.

³ US 6,177,200 B1, issued Jan. 23, 2001.

⁴ Kozak et al., *Zirconium & Hafnium: Inorganic & Coordination Chemistry*, Encyclopedia of Inorganic Chemistry 1–24 (2006) (hereinafter “Kozak”).

⁵ US 2008/0292859 A1, published Nov. 27, 2008.

⁶ Spec. ¶ 5.

Spitsberg⁷ and Maloney, as evidenced by Kozak. Final Act. 6; Ans. 6.

5. Claims 14, 17, 18, 20, and 21 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Spitsberg, Maloney (as evidenced by Kozak), and Appellants' Admissions. Final Act. 9; Ans. 8.

DISCUSSION

Rejection 1. The Examiner rejected claims 1, 6, 7, 9, 12, 13, 16, 22, and 23 as obvious over Maloney, with evidence provided by Kozak. Final Act. 4; Ans. 2.

Appellants make separate arguments for reversal of this rejection with respect to three groups of claims: (1) claims 1, 6, 7, 9, 12, 13, and 16, Appeal Br. 9–15; (2) claim 22, *id.* at 15; and (3) claim 23, *id.* at 15–16. We address Appellants' arguments regarding each group of claims in turn.

Claims 1, 6, 7, 9, 12, 13, and 16. Appellants argue for reversal of the rejection of these claims as obvious based upon the limitations of independent claim 1 and do not present substantive argument with respect to dependent claims 6, 7, 9, 12, 13, and 16. The dependent claims, therefore, stand or fall with representative claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Appellants argue that this rejection should be reversed because: (1) the cited references fail to suggest the reactivity of the disclosed pyrochlores with molten salt impurities, Appeal Br. at 9–11, (2) reaction of Maloney's thermal barrier layer with molten salt impurities would be considered undesirable, *id.* at 11, (3) the Examiner's cited evidence and/or

⁷ EP 1683773 A2, published July 26, 2006.

reasoning fails to support a finding for suggestion or motivation to use the claimed rare earth zirconate or hafnate compounds, *id.* at 11–13, and (4) the Examiner has not provided evidence or reasoning to support a finding of predictability and/or reasonable expectation of success. *Id.* at 13–14. We address these arguments below.

First, Appellants argue that the Examiner reversibly erred in determining that Maloney’s layers “could and do form [the] claimed by-product layer when they are subjected to conventional operating environment.” Appeal Br. 11, citing Adv. Act. 2. Appellants further argue that because

Maloney is silent as to the reactivity of the disclosed pyrochlores, the burden is on the examiner to provide technical reasons, e.g., known chemical reactions, to support the position that Maloney’s disclosed pyrochlores would inherently react with molten salt impurities to form a dense layer as recited in Appellants’ claims.

Id.

Appellants’ arguments misplace their focus on whether Maloney’s disclosed and suggested $A_2B_2O_7$ compounds would necessarily form the claimed by-product layer when subjected to a conventional operating environment. The Examiner did not find Maloney anticipates the claims. Rather, the Examiner determined that Maloney rendered these claims obvious. Final Act. 4; Ans. 2. The Examiner, therefore, is not required to establish inherency by showing that Maloney’s thermal barrier coating would necessarily react with molten salt impurities to form a dense layer. *See, e.g., In re Best*, 562 F.2d 1252, 1255 (CCPA 1977).

We find that, at the time of the invention, a person of ordinary skill in the art would have understood that Maloney teaches the coating of a gas

turbine superalloy substrate with, *inter alia*, a thermal barrier coating formed of cubic pyrochlore ($A_2B_2O_7$). Maloney Abstract; Figs. 1, 2, 3B, 6; 2:66–6:35; 7:38–8:36; and claims. Maloney identifies zirconates ($B=Zr$) with Dy and Nd ($A=Dy$ or Nd) among the cubic pyrochlores disclosed, *id.* at Fig. 2, and teaches that B in $A_2B_2O_7$ may be any of Ti, Zr, and/or Hf. *Id.* 6:27–30; Fig. 2. Thus, the ordinarily-skilled artisan would have considered the whole of Maloney’s disclosure and realized, based on Kozak’s evidence that Zr(IV) and Hf(IV) have similar ionic radii, *see* Kozak Section 2.2; Table 1, that Hf would have been expected to be positioned near Zr in Maloney’s Figure 2. *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.”). As the Supreme Court has noted, such a combination using Hf as an element in Maloney’s cubic pyrochlores as hafnate cubic pyrochlores, including those having rare earth elements Dy and/or Nd, is likely to be obvious. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). Appellants have not persuaded us that the Examiner erred in concluding that their claimed combination of familiar elements is such a case of obviousness.

Second, Appellants argue in connection with argument (2) that because Maloney’s coatings are intended to protect the underlying metal substrate, there is insufficient motivation for the ordinary skilled artisan “to apply a coating that would be predicted to react with molten salt impurities.” Appeal Br. 11.

Appellants' argument is not persuasive because a determination of obviousness does not require any recognition that Maloney's coatings would have reacted with molten salt impurities. "[I]t is not required . . . that the prior art disclose or suggest the properties newly-discovered by an applicant in order for there to be a *prima facie* case of obviousness." *In re Dillon*, 919 F.2d 688, 697 (Fed. Cir. 1990) (*en banc*). There is no dispute here that Maloney is silent as to the claimed formation of a by-product layer, which results from the reaction of a rare-earth oxide-containing compound with molten salt impurities. Appeal Br. 9–10; Ans. 3. The Examiner, however, determined that because Maloney's thermal barrier suggests hafnate cubic pyrochlores having Dy and/or Nd as claimed, it would have been expected that Maloney's thermal barrier would react with molten salt impurities to form the same or substantially the same by-product layer as claimed. Ans. 3.

Appellants, furthermore, do not point to any evidence that the ordinary skilled artisan would have selected from Maloney materials that would resist reaction with the molten salt impurities. Appeal Br. 11. Without such evidence, this assertion is not persuasive. *See Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588, 595 (Fed. Cir. 1997) ("[A]rguments of counsel cannot take the place of evidence lacking in the record."). Thus, Appellants' argument does not identify reversible error in the Examiner's determination.

Third, Appellants' argument is not persuasive because claim 1 recites two Markush groups:

wherein RE in the $\text{RE}_2\text{Zr}_2\text{O}_7$ is selected from the group consisting of Sc, Ce, Pr, Pm, Sm, Eu, Tb, Ho, Er, Tm, Yb, Lu and combinations thereof and

wherein RE in the $\text{RE}_2\text{Hf}_2\text{O}_7$ is selected from the group consisting of Sc, Ce, Nd, Pm, Sm, Eu, Tb, Dy, Ho, Er, Tm, Yb, Lu and combinations thereof.

Appeal Br. 34 (Claims App.). Nd and Dy are members of the $\text{RE}_2\text{Hf}_2\text{O}_7$ group. As the Examiner found, Maloney discloses Nd and Dy. Ans. 2, citing Maloney Fig. 2. Where a claim element relies on a Markush group and one member of the Markush group would have been obvious, the claim element is obvious. *Cf. Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 582 F.3d 1288, 1298 (Fed. Cir. 2009) (“Element (a) is written in Markush form, such that the entire element is disclosed by the prior art if one alternative in the Markush group is in the prior art.”).

Claim 1, furthermore, recites the limitation “wherein the rare-earth oxide-containing compound is comprised of a rare earth zirconate ($\text{RE}_2\text{Zr}_2\text{O}_7$), a rare earth hafnate ($\text{RE}_2\text{Hf}_2\text{O}_7$), *or* a mixture thereof . . .” (emphasis added). Claim 1, therefore, encompasses the presence of a rare earth hafnate, either pure or mixed. For the reasons set forth above, Maloney renders claim 1 obvious because it fairly suggests a rare earth hafnate; NdHf_2O_7 and/or DyHf_2O_7 .

Fourth, Appellants argue that the Examiner’s proposed modification would not have provided a reasonable expectation of success because Maloney teaches that: (i) pyrochlores are complex materials and (ii) the ionic radii of both the A and B pyrochlore components in $\text{A}_2\text{B}_2\text{O}_7$ must be considered. Appeal Br. 14. Appellants’ argument is unpersuasive because it ignores Maloney’s teaching that: (i) based on ionic radii, suitable elements for A may be Nd or Dy and a suitable element for B may be Zr; and (ii) B may be any of Zr and/or Hf (which have similar valence 4^+ ionic radii)

and/or Ti. Maloney Fig. 2; 6:27–30. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421.

Claim 22. Appellants argue that “there is no disclosure in Maloney that suggests that Sc, Ce, Pr, Pm, Eu, Tb, Ho, Er, Tm, Yb, and/or Lu would form an $A_2B_2O_7$ pyrochlore when B is a zirconate.” Appeal Br. 15.

Appellants’ argument is unpersuasive. As the Examiner found, “[c]aim 22 is interpreted to encompass[] rare earth hafnates of [c]laim 1.” Ans. 14. For the reasons set forth above, the Examiner’s finding comports with our construction of the claim.⁸

Claim 23. Appellants rely on the same arguments that we previously found unpersuasive in connection with arguments for reversal of claim group (1) above. They are similarly unpersuasive for the reversal of claim 23.

For the reasons set forth above, we are not persuaded by any of Appellants’ arguments for reversal of the obviousness rejection of claims 1, 6, 7, 9, 12, 13, 16, 22, and 23. We, therefore, affirm **Rejection 1**.

Rejection 2. The Examiner rejected claims 5 and 8 as obvious over the combination of Maloney, as evidenced by Kozak, and Subramanian. Final Act. 5; Ans. 4.

⁸ Based upon our review of Appellants’ Briefs, we believe that Appellants intended to direct claim 22 to a rare-earth oxide-containing compound comprised of a rare earth zirconate ($RE_2Zr_2O_7$), thereby excluding a rare earth hafnate ($RE_2Hf_2O_7$) or a mixture thereof. If prosecution of the ’378 Application continues, Appellants should amend the claim to specifically require the presence of a rare earth zirconate as the rare-earth oxide-containing compound without the presence of a rare earth hafnate.

The Examiner found that Maloney, with evidence from Kozak, suggests every limitation of the coating system recited in claims 5 and 8 except the inclusion of a thermal barrier layer. Ans. 4. The Examiner further found that Subramanian teaches a gas turbine nickel superalloy substrate that is coated with, *inter alia*, a ceramic thermal barrier layer to confer additional protection. *Id.*, citing Subramanian Abstract; ¶¶ 22–70.

Appellants argue that the “Subramanian disclosure is limited to the use of gadolinium (Gd) pyrochlore materials.” Appeal Br. 17. Therefore, according to Appellants, “Subramanian’s disclosure would direct one skilled in the art to use gadolinium materials instead of the RE components recited in Appellants’ [c]laim 1.” *Id.*

Appellants’ argument is unpersuasive because it is not directed to the Examiner’s rationale for modifying Maloney to incorporate Subramanian’s thermal barrier layer. Rather, Appellants’ argument is directed to whether it was improper for the Examiner to combine Subramanian with Maloney when each reference discloses different rare earth components.

The test for obviousness[, however,] is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

In re Keller, 642 F.2d 413, 425 (CCPA 1981). Appellants’ argument fails to identify reversible error in the Examiner’s determination that it would have been obvious to confer additional thermal protection for the substrate of Maloney according to the teachings of Subramanian. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421.

For the reasons set forth above, we are not persuaded by Appellants' argument. Thus, we affirm **Rejection 2**.

Rejection 3. The Examiner rejected claims 14, 17, 18, 20, and 21 as obvious over the combination of Maloney, as evidenced by Kozak, and Appellants' Admissions. Final Act. 6; Ans. 5.

Appellants argue for reversal of this rejection with respect to two groups of claims: (5) claims 14, 17, 18, and 20, Appeal Br. 18–21; and (7)⁹ claim 21, *id.* at 22–23. We address Appellants' arguments regarding each group of claims in turn.

Claims 14, 17, 18, and 20. Appellants rely on the same arguments that we previously found unpersuasive in connection with arguments for reversal of **Rejection 1** of claims group (1) above. Likewise, Appellants' arguments for reversal of claims 14, 17, 18, and 20 are similarly unpersuasive.

Claim 21. Appellants rely on similar arguments that we previously found unpersuasive in connection with arguments for reversal of **Rejection 1** of claims groups (1) and (2) above. For example, Appellants note that claim 21 depends from independent claim 17 and argue that “there is no disclosure in Maloney that suggests that Sc, Ce, Pr, Pm, Eu, Tb, Ho, Er, Tm, Yb, and/or Lu would form an $A_2B_2O_7$ pyrochlore when B is a zirconate.” Appeal Br. 22.

Appellants' arguments are unpersuasive. As the Examiner found, “[c]laim 21 is interpreted to encompass[] rare earth hafnates of [c]laim 17.”

⁹ The Examiner has withdrawn the obviousness rejections to claims group (6). See n.2, *supra*.

Ans. 14. The Examiner's finding comports with our construction of the claim, which recites a Markush group including rare earth hafnates, and mixtures thereof, as members.¹⁰

For the reasons set forth above, we are not persuaded by any of Appellants' arguments for reversal of the obviousness rejection of claims 14, 17, 18, 20, and 21. We, therefore, affirm **Rejection 3**.

Rejection 4. The Examiner rejected claims 1–5, 9, 11–13, 16, 22, and 23 as obvious over the combination of Spitsberg and Maloney, as evidenced by Kozak. Final Act. 6; Ans. 6.

According to the Examiner, “Spitsberg teaches and/or renders obvious hafnia stabilized with lanthanide metal oxide over a range of relative amounts of hafnia and lanthanide metal oxide, which range includes relative molar amounts of 33.3 mol. % RE_2O_3 (and up to 40 mol. %) and 66.6 mol. % HfO_2 .” Ans. 10. The Examiner found that “[a]t these relative molar amounts, the overall composition is therefore $\text{RE}_2\text{Hf}_2\text{O}_7$.” *Id.*; *see also* Ans. 6, citing Spitsberg Abstract; ¶¶ 1–42.

Based upon these findings, the Examiner concluded that

[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to prepare the specifically taught stable compounds of Maloney that are encompassed by the claims since they are among the suggested compounds of Spitsberg and since

¹⁰ For similar reasons set forth above in footnote 8, we believe that Appellants intended to direct claim 21 to a rare-earth oxide-containing compound comprised of a rare earth zirconate ($\text{RE}_2\text{Zr}_2\text{O}_7$), while excluding a rare earth hafnate ($\text{RE}_2\text{Hf}_2\text{O}_7$) or a mixture thereof. If prosecution of the '378 Application continues, Appellants should amend the claim to specifically require the presence of a rare earth zirconate as the rare-earth oxide-containing compound without the presence of a rare earth hafnate.

they are taught as being appropriate for thermal barrier applications such as present in Spitsberg.

Ans. 7.

Appellants argue, *inter alia*, that this rejection should be reversed because the Examiner has not identified a sufficient motivation to combine Spitsberg and Maloney. Appeal Br. 25–26; Reply Br. 3–4. Appellants further argue that the Examiner

does not point to any evidence or provide specific technical reasons why one skilled in the art would be motivated to combine Maloney with Spitsberg when Spitsberg 1) relates to chemically distinct Zr and Hf compounds and 2) does *not* disclose or suggest any . . . hafnates having the formula $A_2B_2O_7$.

Reply Br. 4.

We find the Examiner’s proffered reason for combining Spitsberg with Maloney to be insufficient for the reasons set forth below.

To establish a *prima facie* case of obviousness, the Examiner must provide an adequate reason for a person of ordinary skill in the art at the time the invention to have modified the reference or combination of references to arrive at the claimed invention. *See KSR*, 550 U.S. at 418 (“[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”). In the absence of such an explanation, the rejection must be reversed. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”); *In re Rouffet*, 149 F.3d 1350, 1358 (Fed. Cir. 1998) (“hindsight” is inferred when the specific understanding or principal within

the knowledge of one of ordinary skill in the art leading to the modification of the prior art in order to arrive at appellant's claimed invention has not been explained).

In this case, the Examiner has not adequately explained why a person of ordinary skill in the art at the time of the invention would have been motivated to combine Spitsberg with Maloney in the absence of any teaching that relative molar amounts of hafnia and lanthanide metal oxide would result in the claimed $\text{RE}_2\text{Hf}_2\text{O}_7$ compound. As Appellants argue, “[t]he burden is on the [E]xaminer to cite evidence in the references or provide[] adequate technical reasoning to support a finding that []hafnates are the same as or suggested by Spitsberg’s stabilized []hafnia.” Appeal Br. 24. The Examiner has not met this burden. The Examiner, furthermore, fails to identify any suggestion that Spitsberg’s relative molar amounts of hafnia and lanthanide metal oxide would have been capable of forming a dense, protective byproduct barrier layer beneficial to a thermal barrier layer. Thus, Appellants persuasively argue that Spitsberg, in combination with Maloney, fails to establish a *prima facie* case of obviousness.

We, therefore, reverse the rejection of claims 1–5, 9, 11–13, 16, 22, and 23.¹¹

¹¹ We express no opinion regarding the persuasiveness of Appellants’ arguments that (i) Spitsberg’s physical barrier layer does not react with molten salt impurities, Appeal Br. 25, (ii) reaction of Spitsberg’s physical barrier layer with molten salts would be considered undesirable, *id.*, and (iii) the Examiner has not provided evidence or technical reasoning in support of a finding of predictability and/or reasonable expectation of success. *Id.* at 26.

Rejection 5. The Examiner rejected claims 14, 17, 18, 20, and 21 as obvious over the combination of Spitsberg, Maloney (as evidenced by Kozak), and Appellants' Admissions. Ans. 5.

The Examiner's discussion of Appellants' Admissions does not provide the reasoning and explanation that was missing from **Rejection 4**. Accordingly, we also reverse the rejection of claims 14, 17, 18, 20, and 21 as obvious.

DECISION

For the reasons set forth above, we affirm the obviousness rejections based upon the combination of Maloney, as evidenced by Kozak, either with or without: (i) Subramanian or (ii) Appellants' Admissions.

We reverse the obviousness rejections based upon the combination of Spitsberg, Maloney (as evidenced by Kozak), either with or without Appellants' Admissions.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART